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SNOW SURVEYS AND IRRIGATION WATER FORECASTS

for the

RIO GRANDE DRAINAGE BASIN

February 1, 1944

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Issued by the
United States Department of Agriculture
Soil Conservation Service
Division of Irrigation
In Cooperation with
The Colorado Agricultural Experiment Station
Colorado State College
Fort Collins, Colorado

February 10, 1944

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The following data pertaining to snow surveys and irrigation water-supply forecasts are provided by the Division of Irrigation, Soil Conservation Service of the U. S. Department of Agriculture, in cooperation with other Federal Bureaus, State Departments, and local organizations. The snow measurements are made principally by field personnel of the U. S. Forest Service and Colorado State Engineer. This work is otherwise conducted cooperatively with the State Engineers of Colorado and New Mexico, Colorado Agricultural Experiment Station, and various municipalities, irrigation associations and others. Precipitation records are supplied by the U. S. Weather Bureau.

PRECIPITATION DATA

WATERSHED	STATE	Precipitation October 1 to January 31	Departure from Normal	Precipitation January	Departure from Normal
		Inches	Inches	Inches	Inches
Canadian	New Mexico	3.05	+0.28	0.83	+0.47
Rio Grande	Colorado	4.66	+0.20	1.44	+0.37
Rio Grande	New Mexico	3.90	-0.24	0.87	+0.11
Pecos	New Mexico	3.68	+0.63	0.85	+0.33

Precipitation was above normal during January over the watersheds of the Canadian and Rio Grande in Colorado and New Mexico. The accumulated precipitation since October 1 was above normal except over the Rio Grande drainage in northern New Mexico. Similar conditions prevailed over the Pecos River watershed in New Mexico.

SUMMARY OF FEBRUARY 1 SNOW SURVEYS AND COMPARISON OF DATA WITH THAT OF PREVIOUS YEARS BY WATERSHEDS

WATERSHEDS	Snow Depth			Water Content			Number Courses in Average	Snow Density			1944 Water Content in percent of	
	Eight Year Avg.*	1943	1944	Eight Year Avg.*	1943	1944		Eight Year Avg.*	1943	1944	Eight Year Avg.*	1943
	In.	In.	In.	In.	In.	In.		Percent	Percent	Percent		
Rio Grande	26.9	26.2	28.9	6.3	6.1	6.2	20	23	23	21	98	102
Canadian River	12.9	5.3	22.8	2.5	0.9	2.8	1	19	17	12	112	310

*Some for shorter periods.

WATER SUPPLY OUTLOOK

For the Rio Grande and tributary watersheds, in New Mexico and the San Luis Valley in Colorado, the water content of the snow cover as shown by recent snow surveys, exceeds slightly that of a year ago at this time and is equal to the 8-year average. Reservoir storage in New Mexico is less than it was a year ago. El Vado Reservoir has about 75 percent, and Elephant Butte and Caballo combined, 70 percent of the amount in storage last year. For the San Luis Valley the storage is about 45 percent of last year. In the reservoirs on the Carlsbad Project, Pecos drainage, the present storage is 59,000 acre-feet as compared with 44,000 a year ago or about 30 percent more, and in the Conchas Reservoir, Canadian drainage, the active storage is 287,000 acre-feet. Last year it was 267,000, or about 10 percent more. For the Rio Grande drainage the stream flow is normal, likewise for the Pecos in the lower valley. The Canadian is below normal. Soil moisture in these areas is generally normal.

The outlook for the coming season's irrigation water supply for the Rio Grande drainage, as based on the present snow cover, is fairly promising. At elevations of 10,000 feet, San Luis Valley area, the water content of the snow averages 13 inches as compared with 14, the 8-year average. The density of the snow is less than it was a year ago. The fact that there is a deficiency of reservoir storage in this drainage area is discouraging. Winter runoff is relatively light and the accumulation of storage until late spring will not be great. At present the snow cover on the headwaters of the Canadian and Pecos is considerably better than last year and the storage in the lower valley reservoirs is improved. The present conditions are somewhat encouraging as to the prospects for water this coming season in this section of New Mexico.

RIO GRANDE WATERSHED

Summary of Federal and State Cooperative Snow Surveys

Issued February 10, 1944, at Fort Collins, Colo.

No.	Main Drainage and Snow Course	Local Drainage	Location: State	Location: Locality	Location: Description	Elev.	National Forest	Feb. 1 Snow Cover Measurements: Av. Snow Depth Av.@	Av. Snow Depth 1943	Av. Snow Depth 1944	Av. Water Content Av.@	Av. Water Content 1943	Av. Water Content 1944
	RIO GRANDE							In.	In.	In.	In.	In.	In.
26	Wolf Creek Pass	South Fork	Colo.	Wolf Cr.Pass	4-37N-2E	10000	Rio Grande	57.1	70.8	71.5	15.4	20.4	17.9
27	Upper RioGrande	Rio Grande	"	Rio Grande Res.	13-40N-4W	9350	" "	21.9	21.2	27.9	4.0	4.1	5.6
47	Silver Lakes	Alamosa R.	"	1 mi.S.Silver L.	15-36N-5E	9600	" "	19.3	21.9	24.5	3.4	3.4	3.7
49	River Springs	Conejos R.	"	10mi.W.Mogote	25-33N-6E	9300	" "		24.5			5.4	
74	LaVeta Pass #2	SanCristoCr.	"	LaVeta Pass	22-28S-70W	9300	SanCristoGr	20.8	22.2	20.9	4.1	5.1	3.7
76	Summitville	Wightman Cr.	"	Summitville	30-37N-4E	11500	Rio Grande	54.2	54.5	52.0	12.3	10.0	10.7
77	Cumbres Pass #2	Los Pinos R.	"	Cumbres Pass	17-32N-5E	10000	" "	50.8	54.4	50.5	13.0	15.1	10.3
80	Santa Maria	N.Clear Cr.	"	SantaMaria Res.	8-41N-2W	9700	" "	17.9	23.7	22.0	3.5	4.6	3.6
82	Culebra	Culebra R.	"	12mi.E.San Luis	37.2N-105.2W	10000	SanCristoGr	25.1	20.4	25.6	5.8	4.8	5.2
84	Fort Garland	Big Ute Cr.	"	6mi.N.Ft.Garland	13-29N-72W	8200	" " "		0.0			0.0	
1	Red River	Red River	N.Mex.	6mi.SE.Red River	29-28N-15E	9500	Carson	21.3	16.9	24.5	5.7	5.2	7.1
2	Taos Canyon	Rio de Taos	"	14mi.E.Taos	10-25N-15E	9000	"	18.8	13.4	21.1	5.4	5.4	6.3
4	Aspen Grove	Rio En Medio	"	10mi.NE.Santa Fe	12-18N-10E	9100	Santa Fe	21.9	23.8	22.0	4.9	4.6	4.8
5	Lee Ranch	Jemez Cr.	"	5mi.NW.Bland	3-18N-4E	9050	" "	27.2	17.1	27.2	5.7	4.3	5.6
6	Canjilon	Canjilon Cr.	"	8mi.NE.Canjilon	4-26N-6E	9500	Carson		31.4			10.1	
7	Rio Nutrias	Rio Nutrias	"	10mi.SE.ParkView	6-27N-5E	7900	"		16.3			3.4	
9	Hematite Park*	Red River	"	3mi.SE.Red R.	8-28N-15E	9500	Carson		8.8			2.0	
12	Tres Ritos	Agua Piedra	"	7mi.W.Holman	23-22N-13E	9000	"	23.0	16.9	26.8	5.1	2.9	5.8
15	Pay Role	Rock Creek	"	4mi.SE.Hopewell	16-28N-7E	10000	"	25.1	17.6	25.4	6.8	3.4	4.9
16	Jicarilla	Rock Lake Cr.	"	15mi.S.Dulce	9-29N-1W	8500	Jicarilla R.	18.0	14.5	15.5	4.0	3.0	2.2
17	Chama Divide	Willow Creek	"	6mi.W.Chama	36.9N-106.7W	7750	Off Forest	21.2	19.7	16.2	4.8	3.7	3.1
18	Chamita	Chamita Cr.	"	6mi.NW.Chama	36.9N-106.7W	8500	" "	26.8	34.6	25.5	5.6	7.5	4.9
19	Cordova	Cordova Canyon	"	2mi.W.Tres Ritos	22-22N-13E	10100	Carson	31.6	25.9	34.2	7.1	5.8	7.5
20	Panchuela #2	Panchuela Cr.	"	2mi.N.Cowles	27-19N-12E	8300	Santa Fe	16.0	11.5	19.5	3.6	3.0	4.0
21	Big Tesuque	Big Tesuque Cr.	"	10mi.NE.Santa Fe	17-18N-11E	10000	Santa Fe	20.1	23.3	24.8	5.2	6.0	6.5
					Average for Drainage			26.9	26.2	28.9	6.3	6.1	6.2
	CANADIAN												
9	Hematite Park	Moreno Creek	N.Mex.	3mi.SE.Red R.	8-28N-15E	9500	Carson		8.8			2.0	
10	Ocate Mesa	Ocate Creek	" "	3mi.E.Black L.	25-24N-16E	9200	Off Corest	12.9	5.3	22.8	2.5	0.9	2.8
					Average for Drainage			12.9	5.3	22.8	2.5	0.9	2.8

*On adjacent drainage

@Average for period of record